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09/998,685	11/29/2001	Shiying Zheng	A34673-065838.0318	7351

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PAUL W. BUSSE1  
FAEGRE & BENSON, LLP  
2200 WELLS FARGO CENTER  
90 SOUTH SEVENTH STREET  
MINNEAPOLIS,, MN 55401-3901

EXAMINER
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GILLIAM, BARBARA LEE

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/998,685

Applicant(s)

ZHENG ET AL.

Examiner

Barbara Gilliam

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 is/are allowed.
- 6) ☒ Claim(s) 1-13, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) 6 and 14-28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed November 21, 2003 has been entered and fully considered.
2. The indicated allowability of claims 14-28 is withdrawn in view of the amendment to claims 14 and 15.

### ***Claims***

3. Claims 1-31 are present.
4. Claim 11 further limits "A" of structure VIb in claim 10 without requiring the presence of A.
5. Claims 24-28 further limit the respective additives of claim 14 without requiring the choice of one additive over the other.

### ***Claim Objections***

6. Claims 6, 14-28 are objected to because of the following:
  - a. In claims 6 and 15, "the infrared dye has the formula of compounds I-V" is not an alternative expression and the scope of the claims is unclear. The Examiner suggests "the infrared dye has the formula of compounds I, II, III, IV or V" or "the infrared dye is selected from the group consisting of compounds I, II, III, IV and V". See MPEP 2173.05(h).
  - b. In claim 14, "a diazonium, iodonium, copper (I), alkoxypyridinium and maleimide additive or mixtures thereof" is not an alternative expression and the scope of the claim is unclear. The Examiner suggests "a diazonium, iodonium, copper (I),

Art Unit: 1752

alkoxypyridinium, maleimide additive or mixtures thereof." Claims 15-28 depend from claim 14. See MPEP 2173.05(h).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-13, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. in view of Gardner, Jr. et al.

a. In US 5,985,514, Zheng et al. teach an imaging member composed of a hydrophilic imaging layer having a hydrophilic heat-sensitive polymer containing heat-activatable thiosulfate groups and optionally a photothermal conversion material. Upon application of energy that generates heat, such as from IR irradiation, the polymer is crosslinked and rendered more hydrophobic (abstract). The heat-activatable thiosulfate group represented by structure I is identical to the thiosulfate group of present structure VIa (claim 1; column 4, lines 49-60). In structure I, when X is an arylene group, the heat-activatable thiosulfate group meets the present limitations for the thiosulfate group of structure VIb (claim 2). The heat-activatable groups comprise from about 10 to 100 mol% of all recurring units in the heat sensitive polymer (claim 10). The heat sensitive polymer has a molecular weight of at least 1,000 and preferably of at least 5,000 (column 4, lines 33-36). The polymers comprising the thiosulfate groups can be

Art Unit: 1752

polymerized with one or more other ethylencially unsaturated polymerizable monomers such as acrylates, methacrylates, styrenes and acrylamides (column 9, lines 14-22). The amount of the heat-sensitive polymer(s) used in the imaging layer is at least 0.1 g/m<sup>2</sup> and preferably from about 0.1 to about 10 g/m<sup>2</sup> which gives an average dry thickness of from about 0.1 to about 10 μm (column 10, lines 4-9). The photothermal conversion material can be infrared absorbing dyes such as IR Dye 6, which is identical to compound I of present claim 6. The imaging layer of Zheng et al. meets the present limitations for the coating composition. In Zheng et al., the imaging member preferably has only one layer that is the heat sensitive layer required for imaging (column 4, lines 18-20). There is no teaching of a water soluble topcoat as required in the present application. However, the Examiner asserts it would have been obvious to one of ordinary skill in the art to use a topcoat layer that is not imageable based on the teachings of Gardner, Jr. et al.

b. In US 5,506,090, Gardner, Jr. et al. teach a process for making shoot and run printing plates having a protective top coat layer which can be water-soluble. The protective top coat layer may provide the printing plate with protection from contamination during handling, improved suppression of odors during imaging and improved roll-up performance on press (abstract). Polymers useful in the preparation of top coats include polyacrylamide and polyvinylpyrrolidone (column 7, line 66 – column 8, line 18). The water soluble top is capable of being removed after exposure on press by action of the fountain solution and/or the action of the press (column 7, lines 56-63).

Art Unit: 1752

c. Therefore it would have been obvious to one of ordinary skill in the art to coat the imaging element of Zheng et al. with a water soluble protective top coat of to provide the imaging element with protection from contamination during handling, improved suppression of odors during imaging and improved roll-up performance on press based on the teachings of Gardner, Jr. et al. wherein the imaging element comprises a support and a hydrophilic imaging layer containing a hydrophilic heat-sensitive polymer containing heat-activatable thiosulfate groups and a photothermal conversion material.

### ***Response to Arguments***

9. Applicant's arguments filed November 21, 2003 have been fully considered but they are not persuasive.

a. In response to applicant's argument that it would not have been obvious to one of ordinary skill in the art to coat the imaging element of Zheng (US 5,985,514) with the water soluble protective top coat of Gardner (US 5,506,090) to suppress effluence of a coating composition having a hydrophilic heat-sensitive polymer containing heat-activatable thiosulfate groups, Gardner, Jr. et al. clearly teaches that the top coat improves the suppression of odors during imaging (abstract). Therefore it would have been obvious to coat the imaging element of Zheng et al. with the water soluble protective top coat of Gardner, Jr. et al. Effluence is defined at page 2, paragraph [0003] of Applicant's specification as "an odor that blows out of the printing plate or out of the printing plate coating. Additionally it would have been obvious to coat the imaging element of Zheng et al. with the water soluble protective top coat of Gardner,

Art Unit: 1752

Jr. et al. to provide the imaging element with protection from contamination during handling and improved roll-up performance on press based on the teachings of Gardner, Jr. et al.

b. In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Specifically, Applicant argued that Zheng et al. does not teach or suggest using a water-soluble topcoat (or additional layers) to reduce effluence of the coating composition and that the photosensitive layer of Gardner, Jr. et al does not contain heat-activatable thiosulfate groups. Again the Examiner recognizes that Zheng et al. does not suggest using a water-soluble topcoat. Gardner, Jr. et al. is cited for its teaching of a water-soluble top coat. Based on the combined teachings of Zheng et al. and Gardner, Jr. et al., it would have been obvious to coat the of Zheng with the water soluble top coat of Gardner et al.

### ***Allowable Subject Matter***

10. Claim 31 is allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

a. The imaging layer of Zheng et al. can contain one or more conventional surfactants for coatability, dye or colorants for visualization or any other conventional addenda (column 10, lines 10-15), however there is no teaching or suggestion to

Art Unit: 1752

specifically incorporate a diazonium, iodonium, copper (I), alkoxy pyridinium or maleimide additive as required in present claim 31.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Gilliam whose telephone number is 571-272-1330. The examiner can normally be reached on Monday through Thursday, 8:00 AM - 5:30 PM.

a. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone



Art Unit: 1752

number for the organization where this application or proceeding is assigned is 703-872-9306.

b. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Barbara Gilliam*

Barbara Gilliam  
Examiner  
Art Unit 1752  
March 25, 2004

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